

## DATA INSIGHTS

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# Using data to classify the likely ‘motivation’ of online drug purchasers

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## WHAT WE DID

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There is substantial evidence that people are increasingly buying illegal drugs from international online markets, such as social media sites and cryptomarkets, and having them delivered into the UK via the postal service. Relatively little is known about the people who buy drugs from online markets, or what their motivations are for doing so, as it is hard to access data about these individuals. It is widely believed that some people buy drugs for their own personal consumption while others buy to sell on to others. Where parcels are intercepted by law enforcement, trying to classify the likely motivation of the drug purchaser could be important in terms of estimating the level of ‘harm’ posed to people and communities.

We used data provided by the National Crime Agency about illegal consignments intercepted through the postal service by the UK Border Force and destined for Scotland to establish a new approach for the classification of drug purchases with a view to helping law enforcement to judge the likely usage and harm of such packages.

Our research involved two stages. First, we consulted experts from Police Scotland to estimate the street price and number of doses for each of the packages intercepted by the UK Border Force. We used this information to offer a better classification of consignments in relation to the motivation of their buyers; that is, whether they were purchased for personal consumption or for resale. Second, we explored whether the geographical clustering of similar packages could help law enforcement to determine ‘problematic’ communities where harms might be greater.

## WHAT WE FOUND

We found striking differences in both the estimated street price and the number of doses contained in parcels intercepted by the UK Border Force. Using data provided by Police Scotland, we found that around 35 percent of intercepted packages could be classified as being most likely for 'self-consumption' as they contained relatively small amounts and were of low value, which was in keeping with patterns of personal use. We also found that around 30 percent of packages contained quantities of drugs that were most likely to be motivated by reasons of wholesale or drug dealing, as they were of high value and contained quantities that were beyond what any person could consume personally, even over a long period.

However, 35 percent of consignments did not fit well into either of these two categories because the number of doses contained in the packages was too high to be related to individuals with an average pattern of self-consumption, but too low to be included in the wholesale group. Thus, we classified a third motivation for drug purchasers, which we propose is most likely to be associated with either heavy use or social dealing.

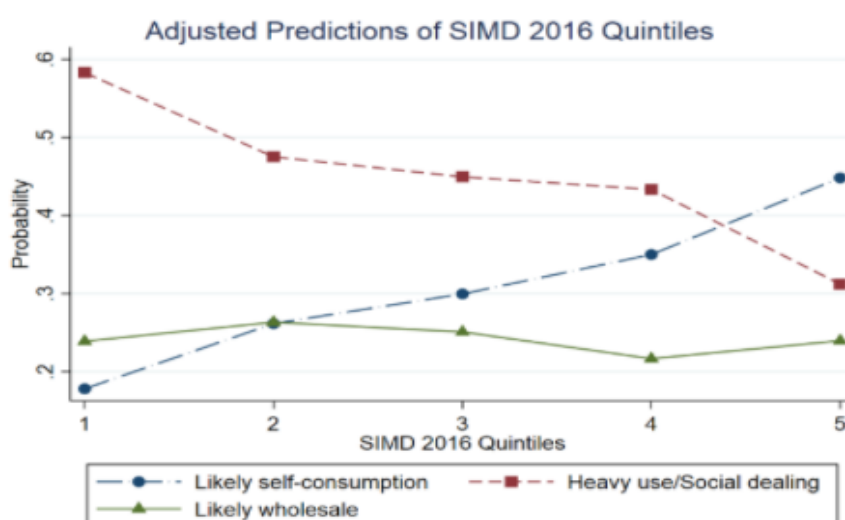


Figure 1: Adjusted predictions of purchases of different types of drugs by SIMD 2016 quintiles

When we explored some of the characteristics of the destination of these drug packages, we found that deprivation was a key factor that was related to differences in possible motivation of purchase. Figure 1 shows that parcels that were destined for the 20% most deprived communities of Scotland (SIMD Quintile 1) were most likely to be motivated by heavy use or social dealing; while parcels that were destined for the 20% least deprived communities of Scotland (SIMD Quintile 5) were most likely to be motivated by personal consumption. However, there was no real difference across Scottish communities based on level of deprivation in terms of whether parcels were likely to be motivated by likely wholesale.

We also found that the predicted motivation of drug purchasers was associated with local crime rates and some sociodemographic characteristics of the destination (such as the proportion of young people in the population, levels of unemployment, and rates of people from non-white ethnic groups). This suggests that people's motivation for purchasing drugs online may be influenced by where they live, and certain types communities may have more 'harmful' purchasers than others.

## WHAT WE FOUND

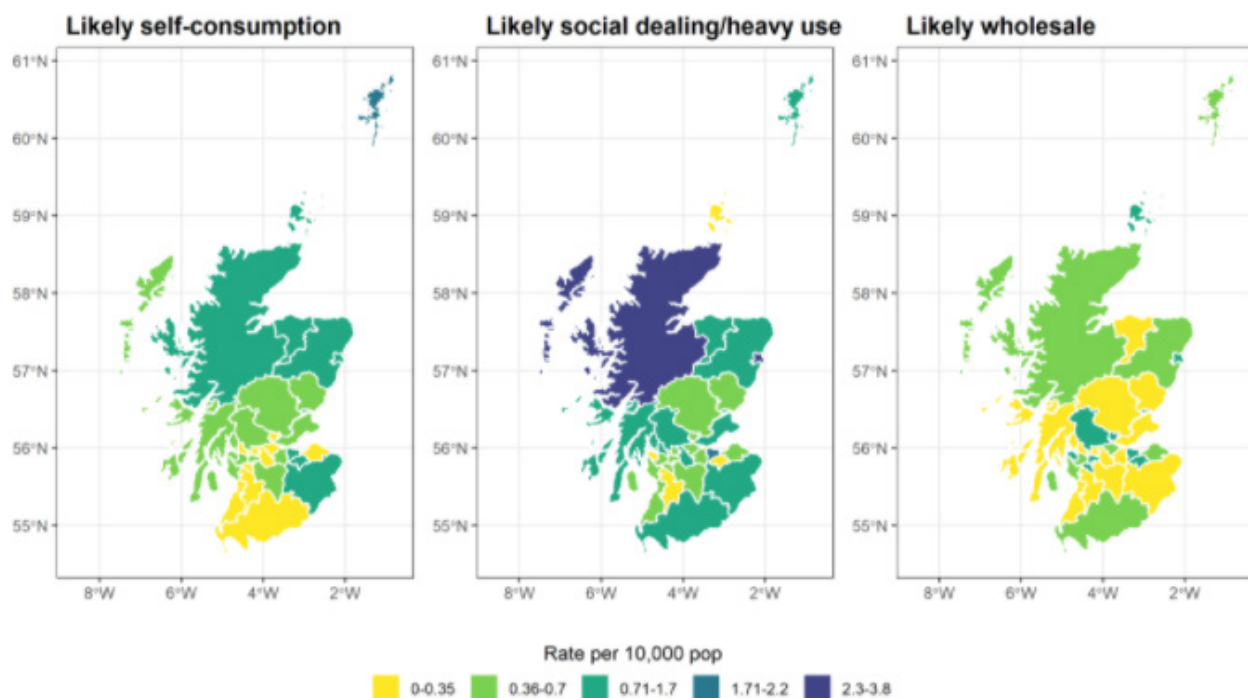


Figure 2: Distribution of packages by Local Authority Area

Finally, we found some interesting geographical clusters of intercepted packages based on likely motivation of purchase. Figure 2 shows the rate of drug parcel interception per 10,000 people across the 32 Scottish local authorities according to the likely motivation of the drug purchaser.

It shows that the highest rates of drug purchase for self-consumption tended to be clustered in the most northern and south eastern local authorities in Scotland, many of which contain remote and rural communities. Indeed, the Shetland Isles had the highest rate of intercepted packages per 10,000 population associated with self-consumption.

Rates of drug purchase classified as being most likely motivated by social dealing or heavy use were highest in the Highlands, Western Isles and the City of Aberdeen, although there was also a substantial level of clustering in other northern and southern local authorities – including a mix of urban and rural communities.

While the highest rate of intercepted packages likely to be used in wholesale was observed in those local authorities containing the largest urban centres (i.e. Glasgow, Edinburgh, Aberdeen, Dundee and Stirling), although the Orkney Islands also had a higher than average rate of clustering.

Generally speaking, this suggests that patterns of motivation for buying drugs online are influenced in different ways depending on levels of urbanisation or rurality, and distance from Scotland's central belt. This suggests that levels of harm have a distinct geographical aspect that should be taken into account when law enforcement agencies are determining how to deal with drug parcels intercepted through the postal system.

## WHY IT MATTERS

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The emergence of new technologies, and specifically the internet, has prompted a rapid shift of some illegal activities into online spaces. This situation makes necessary the development of new strategies not only to understand the motivations of those involved, but also to address any adverse effect that these activities might have for people and communities.

Our research used National Crime Agency data to try and classify the potential motivation of online drug purchasers. We demonstrate that it is possible to identify different types of online drug purchasers using these data, which may have implications for levels of harm across different parts of Scotland. This work provides policy makers and practitioners with new insights into a relatively under-researched field. It could be particularly useful for law enforcement and public health agencies, as our findings indicate that some transactions are more likely to cause harm than others, including those that are associated with wholesale transactions and heavy use/social dealing.

Our findings demonstrate that there may be complex reasons for purchasing drugs online amongst those from different parts of Scotland. This could be extremely important in the development of more targeted local policies aimed at minimising the effects of drug use, identifying significant drug dealing, and reducing drug-related deaths.

## WHAT NEXT?

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We are aware that our research presents some limitations, especially due to the lack of individual level data. However, our findings provide a glimpse of what could be achieved if a close collaboration between key stakeholders and academic researchers is established.

Ideally, we would like to access to individual level data and link this to other national datasets, so we can gain a better understanding of the characteristics of those who buy drugs on the internet. This could be of significant value to both policy makers and law enforcement agencies, as better and more targeted interventions could be developed, not only to tackle illegal drug markets, but also to provide better support to those who use these markets as a results of their problematic drug use.

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